

Pressure Control Device for Vehicles

CLAIMS:

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1. Pressure control device for vehicles comprising a control device (20), a mechanical, pneumatic and/or hydraulic element (4) and at least one sensor (8) and/or an actuator (12),

characterized in that, in the area of the sensors (8) and/or actuators (12), recesses or holes (9) are provided in the control device (20) and/or the element (4) in which the sensors (8) and/or actuators (12) can be accommodated at least partially.

2. Pressure control device according to Claim 1, characterized in that the control device (20) comprises a printed circuit board (27) which is provided with recesses or holes (9) for the sensors (8) and/or actuators (12).

3. Pressure control device according to Claim 1 and/or 2, characterized in that the control device comprises a casing with a first and a second casing part (4, 5), the two casing parts (4, 5) being mutually connectible, and the first casing part (5) together with the second casing part (4) forming an

essentially closed chamber for at least the control device (20).

4. Pressure control device according to Claim 3, characterized in that the mechanical, pneumatic and/or hydraulic element is the second casing part.

5. Pressure control device according to one or several of Claims 1 to 4, characterized in that the hydraulic element (4) is a valve block.

6. Pressure control device according to one or several of Claims 1 to 4, characterized in that the second casing part (4) is a control valve block for the compressed-air system of a vehicle.

7. Pressure control device according to one or several of Claims 1 to 6, characterized in that a bending-resistant element (34) is provided.

8. Pressure control device according to Claim 7, characterized in that the bending-resistant element (34) is a casing part (4, 5).

9. Pressure control device according to Claim 7, characterized in that the bending-resistant element (34) can be connected with a casing part (4, 5).

10. Pressure control device according to one or several of Claims 7 to 9, characterized in that the bending resistance element (34) is provided for absorbing the pressure forces of the sensors (8) and/or actuators (12).

11. Pressure control device according to one or several of Claims 1 to 10, characterized in that the controlling and the signal processing of the sensors (8) and/or actuators (12) takes place in the control device (20).

12. Pressure control device according to one or several of Claims 1 to 11, characterized in that amplifiers (15, 19) are provided in the control device (20) which amplify the signals of the sensors (8).

13. Pressure control device according to Claim 12, characterized in that the amplifiers (15, 19) are arranged in the direct or indirect vicinity of the sensors (8) which can be assigned.

14. Pressure control device according to one or several of Claims 1 to 13, characterized in that the electric connection (10) between the sensor (8) and the control device (20) takes place at least partially by way of flexible lines (10).

15. Pressure control device according to one or several of Claims 1 to 14, characterized in that a storage element (16) is provided in the pressure control device.

16. Pressure control device according to Claim 15, characterized in that the calibrating values of the sensors (8) and/or actuators (12) and/or regulating parameters or control parameters of the control device (20) can be stored in the storage element (16).

17. Pressure control device according to one or several of Claims 3 to 16, characterized in that the sensors (8) and/or actuators (12) are arranged in an area between the two casing parts (4, 5).

18. Pressure control device according to Claim 17, characterized in that the sensors (8) and/or actuators (12) are held by the two casing parts (4, 5).

19. Pressure control device according to one or several of Claims 1 to 18, characterized in that at least one seal (13) is provided which seals off the sensors (8) and/or actuators (12).

20. Pressure control device according to Claim 19, characterized in that the seal is provided between the pressure connection of the second casing part (4) and the sensor (8).

21. Pressure control device according to one or several of Claims 1 to 20, characterized in that the sensor (8) has a pot-shaped construction.

22. Pressure control device according to Claim 21, characterized in that the sensor (8) is held or guided by way of the edge of the pot bottom by a casing part.

23. Pressure control device according to Claim 21 and/or 22, characterized in that the sensor membrane (40) is constructed on the pot bottom.